

REMARKS

Pending claims 8-11 were rejected in the Office Action mailed October 18, 2002, under 35 U.S.C. § 112, ¶ 2. The claims have been amended to address the Examiner's comments and to overcome the rejection.

Specifically, all references in the claims to "wastewater" have been amended to read "waste water." In addition, claim 8 has been amended to make clear that during the mix fill phase waste water is continuously directed into a vessel containing activated sludge, the waste water is continuously mixed with the activated sludge and phosphorous release and denitrification take place throughout the mix fill phase.

Claim 8 has also been amended to make clear that in the react fill phase, waste water continuously flows into the vessel and is exposed to intermittent aeration and continuous mixing, and throughout the react discharge phase there is no waste water flow into the vessel and waste water is continuously exposed to alternating periods of aerobic and anoxic conditions.

Finally, claim 8 has been amended to make clear that during the react discharge phase, the waste water is continuously directed to a membrane device to separate suspended solids from the liquid in the waste water.

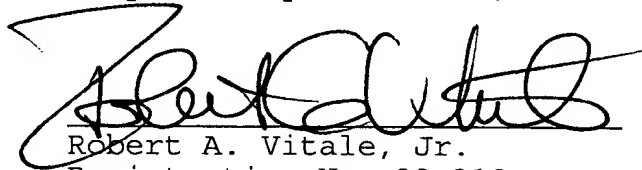
Claim 10 has been amended to make clear that the react fill phase begins with continuous mixing and intermittent aeration. Similarly, claim 11 has been amended to make clear that the react

discharge phase begins with the cessation of waste water flow into the vessel.

The Examiner's reference to Metcalf is acknowledged. Applicants point out, however, that a continuous flow-through system uses independent vessels with multiple sludge masses to create the appropriate environments whereas the present invention creates the appropriate environments in a single vessel with a single sludge mass.

In light of the foregoing amendments, it is respectfully submitted that all of the pending claims are now in a condition for allowance.

Respectfully submitted,



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For: PROCESS AND APPARATUS FOR THE
TREATMENT OF WASTE WATER
Group Art Unit: 1724
Examiner: C. R. Barry

MARKED VERSION OF CLAIMS

8. (Once Amended) A three-phase process for the treatment of waste water comprising:

an initial mix fill phase having a predetermined duration in which [wastewater] waste water is continuously directed into a vessel containing an activated sludge, the [wastewater] waste water is continuously mixed with the activated sludge and the vessel environment is controlled to provide an [initial] anaerobic time period for achieving phosphorous release and denitrification of oxidized nitrogen in the vessel throughout the mix fill phase;

followed by a react fill phase having a predetermined duration in which continuous [wastewater] waste water flow into the vessel continues and the [wastewater] waste water is exposed to [alternating periods of aeration and mixing only] intermittent aeration and continuous mixing to promote completely mixed aerobic and anoxic conditions;

followed by a react discharge phase having a predetermined duration in which there is no waste water flow into the vessel, [wastewater flow into the vessel ceases,] the [wastewater] waste water is continuously exposed to

alternating periods of aerobic and anoxic conditions, and during this exposure to alternating periods of aerobic and anoxic conditions[; and,]the [wastewater] waste water is continuously directed to a membrane device to separate suspended solids from the liquid in the [wastewater] waste water.

9. (Not Amended) The process of claim 8 wherein the mix fill phase is completed in about 15 minutes.

10. (Once Amended) The process of claim 8 wherein the react fill phase begins with continuous mixing and intermittent aeration and is completed in about 45 minutes.

11. (Once Amended) The process of claim 8 wherein the react discharge phase begins with the cessation of waste water flow into the vessel and is completed in about 60 minutes.